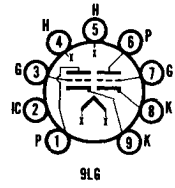
VERTICAL DEFLECTION OSCILLATOR and AMPLIFIER

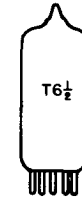
6CY7

8CY7, 11CY7

Double Dissimilar Triode

Construction .....Miniature T-6½
Base .....Button 9 Pin, E9-1
Basing 9LG
Outline 6-3
Maximum Diameter .....0.875 In.
Maximum Seated Height .....2.375 In.
Maximum Overall Height .....2.625 In.





ELECTRICAL DATA

HEATER OPERATION

	11CY7	8CY7	6CY7
Heater Voltage	11	7.9	6.3 Volts
Heater Current	450	600	750 Ma
Heater Warm-up Time	11	11	— Seconds
Maximum Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
Total DC and Peak			200 Volts
Heater Positive with Respect to Cathode			
DC			100 Volts
Total DC and Peak			200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

	Section No. 1	Section No. 2
Grid to Plate	1.8	4.4 Pf
Input: g to (h + k)	1.5	5.0 Pf
Output: p to (h + k)	0.30	1.0 Pf

RATINGS (Design Maximum Rating System)

	Vertical Defl. Osc.(1) Section No. 1	Vertical Defl. Amp.(1) Section No. 2
DC Plate Voltage (Max.)	350	350 Volts
Peak Positive Pulse Plate Voltage (Max.)	—	1800 Volts
Peak Negative Pulse Grid Voltage (Max.)	400	250 Volts
Plate Dissipation (Max.)(2)	1.0	5.5 Watts
DC Cathode Current (Max.)	—	35 Ma
Peak Cathode Current (Max.)	—	120 Ma
Grid Circuit Resistance		
Cathode Bias (Max.)	2.2	2.2 Megohms
Fixed Bias (Max.)	2.2	— Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section No. 1	Section No. 2
Plate Voltage	250	150 Volts
Grid Voltage	-3.0	— Volts
Cathode Bias Resistor	—	620 Ohms
Plate Current	1.2	30 Ma
Transconductance	1300	5400 μmhos
Amplification Factor	68	5
Plate Resistance (Approx.)	52,000	920 Ohms
Grid Voltage for Ib = 200 μa (Approx.)	—	-40 Volts
Grid Voltage for Ib = 10 μa (Approx.)	-5.5	— Volts
Plate Current at Ec = -30 VDC (Approx.)	—	3.5 Ma

INSTANTANEOUS PLATE KNEE CHARACTERISTICS

Eb = 60 V, Ec1 = 0 V, Ib = 80 Ma

NOTES:

(1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.

(2) In stages operating with grid-leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.

6CZ5

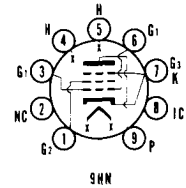
5CZ5

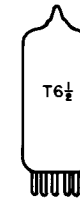
Color Television Type

AUDIO POWER AMP. or VERTICAL DEFLECTION AMP.

Beam Power Pentode

Construction .....Miniature T-6½
Base .....Button 9 Pin, E9-1
Basing.....9HN
Outline 6-4
Maximum Diameter .....0.875 In.
Maximum Seated Height .....2.812 In.
Maximum Overall Height .....3.062 In.





ELECTRICAL DATA

HEATER OPERATION

	5CZ5	6CZ5
Heater Voltage	4.7	6.3 Volts
Heater Current	600	450 Ma
Heater Warm-up Time	11	11 Seconds
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC and Peak		200 Volts
Heater Positive with Respect to Cathode		
DC		100 Volts
Total DC and Peak		200 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid No. 1 to Plate (Max.)	0.4 Pf
Input: g1 to (k + h + g3 + g2)	9.0 Pf
Output: p to (k + h + g3 + g2)	6.0 Pf

RATINGS (Design Maximum Rating System)

	Vertical Deflection Amp.	Class A1 Power Amp.
DC Plate Voltage (Max.)	350	350 Volts
Peak Positive Plate Voltage (Abs. Max.)	2200(2)	— Volts
DC Grid No. 2 Voltage (Max.)	315	285 Volts
Peak Negative Grid No. 1 Voltage (Max.)	275	— Volts
Plate Dissipation (Max.)(1)	10	12 Watts
Grid No. 2 Input (Max.)	2	2 Watts
Average Cathode Current (Max.)	45	— Ma
Peak Cathode Current (Max.)	155	— Ma
Grid No. 1 Circuit Resistance		
Fixed Bias (Max.)	0.5	0.1 Megohm
Cathode Bias (Max.)	1	1 Megohm
Bulb Temperature (At Hottest Point) (Max.)	250	250 °C

CHARACTERISTICS AND TYPICAL OPERATION

AF Power Amplifier	Single Tube Class A1	Push Pull Class AB1
Plate Voltage	250	350 Volts
Grid No. 2 Voltage	250	280 Volts
Grid No. 1 Voltage	–14	–23.5 Volts
Peak AF Grid No. 1 Voltage	13	— Volts
Peak AF Grid to Grid Voltage(3,4)	—	47 Volts
Zero Signal Plate Current	46	46 Ma
Maximum Signal Plate Current	48	103 Ma
Zero Signal Grid No. 2 Current	4.6	3 Ma
Maximum Signal Grid No. 2 Current	8	13 Ma
Transconductance	4800	— μmhos
Load Resistance	5000	— Ohms
Load Resistance (Plate to Plate)	—	7500 Ohms
Power Output	5.4	21.5 Watts
Total Harmonic Distortion	10	1 Percent

INSTANTANEOUS PLATE KNEE VALUES

Eb = 70 V, Ec2 = 250 V, Ec1 = 0 V
Ib = 130 Ma, Ic2 = 16 Ma

NOTES:

(1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the pulse must not exceed 15% of one horizontal scanning cycle.
(2) Under no circumstances should this absolute value be exceeded.
(3) No Grid No. 1 Current should flow during any part of the input cycle.
(4) Low resistance is required by the Grid No. 1 Circuit such as transformer or impedance coupling devices.